

### REMARKS

Reconsideration and further examination of the subject patent application in light of the present Amendment and Remarks is respectfully requested. Claims 38-48 are currently pending in the application. Claims 38-48 stand rejected.

#### Rejections under 35 U.S.C. §102(b)

Claims 38-43 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 3,085,195 to Anderson. Applicant respectfully traverses these rejections.

Independent claims 38 and 41 have been further limited to "decoupling the atoms of different atomic weights". Support for the additional limitations may be found in the example of oxygen-17 and hydrogen described at the bottom of page 7. As discussed, oxygen-17 may be decoupled from hydrogen by the simultaneous or sequential application of rf energy at the Larmor frequency of oxygen-17 and hydrogen.

The Examiner asserts that "Anderson discloses . . . exciting a plurality of atoms having different atomic weights with the plurality of generated signals; receiving a plurality of experimental signals within different Larmor frequency ranges from atoms excited by the plurality of generated signals (Columns 2-3, lines 12-23 and 22-42 respectively)" (Office Action of 12/14/05, page 2). However, excitation of an atom, in this context, means the application of rf energy to an atom at the Larmor frequency of the atom.

In this regard, Anderson explicitly states that "a first and second group of gyromagnetic bodies having

different gyromagnetic resonance frequencies as of, for example, hydrogen nuclei in benzene ( $C_6H_6$ ) and hydrogen nuclei in ethyl alcohol ( $CH_3CH_2OH$ )" (Anderson, col. 3, lines 22-26). Since Anderson excites atoms of a single atomic weight, there is no excitation of atoms of different atomic weights taught by Anderson.

In addition, the claims are now limited to decoupling the atoms of different atomic weights. The decoupling of atoms at different atomic weights is also not taught by Anderson.

For either of the above reasons, Anderson does not do the same or any similar thing as that of the claimed invention. Since Anderson does not do the same or any similar thing as that of the claimed invention, the rejections are improper and should be withdrawn.

#### Rejections under 35 U.S.C. §103(a)

Claims 44-48 stand rejected under 35 U.S.C. §103(a) as being obvious over Anderson in view of U.S. Pat. No. 5,160,891 to Keren. Applicant respectfully traverses these rejections.

It may be noted in this regard, that Keren suffers from the same deficiencies as Anderson. More specifically, Keren and Anderson each fail to provide any teaching or suggestion of the excitation of atoms of different atomic weights or of decoupling of the atoms of different atomic weights. Since the combination of Anderson and Keren fail to teach or suggest at least these claim limitations, the rejections fail. Since the combination of Anderson and Keren fails to teach or suggest each and every claim

limitation, the rejections are improper and should be withdrawn.

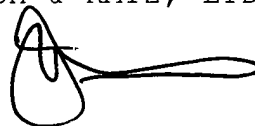
Closing Remarks

For the foregoing reasons, applicant submits that the subject application is in condition for allowance and earnestly solicits an early Notice of Allowance. Should the Primary Examiner be of the opinion that a telephone conference would expedite prosecution of the subject application, the Primary Examiner is respectfully requested to call the undersigned at the below-listed number.

The Commissioner is hereby authorized to charge any additional fee which may be required for this application under 37 C.F.R. §§ 1.16-1.18, including but not limited to the issue fee, or credit any overpayment, to Deposit Account No. 23-0920. Should no proper amount be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 23-0920. A duplicate copy of this sheet(s) is enclosed.

Respectfully submitted,  
WELSH & KATZ, LTD.

By



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March 14, 2006  
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